

In the Claims

1 1 (Original) A flip-chip light-emitting device, comprising
2 a transparent substrate,
3 a semiconductor stacked structure arranged over a main surface of said
4 transparent substrate wherein said stacked structure comprises an n-type GaN-based III-V Group
5 compound semiconductor layer adjacent to said main surface and a p-type GaN-based III-V
6 Group compound semiconductor layer adjacent to said n-type semiconductor layer,
7 a first electrode being in electrical contact with said n-type semiconductor layer,
8 and
9 a second electrode being in electrical contact with said p-type semiconductor
10 layer,
11 wherein said second electrode has good reflectivity of light and covers most of the
12 outer surface of said p-type semiconductor layer

1 2 (Original) The device of Claim 1 wherein said stacked structure further comprises an
2 active layer placed between said n-type semiconductor layer and said p-type semiconductor
3 layer

1 3 (Original) The device of Claims 1 or 2 further comprising an insulating layer at least
2 coated on the side surface of the stacked structure, a portion of said first electrode and a portion
3 of said second electrode

1 4 (Original) The device of Claims 1 or 2 further comprising a base which has a first
2 and a second conductive portions respectively connected to said first and second electrodes

1 5 (Original) The device of Claim 4 wherein said base can be a conductive lead frame, a
2 glass lead frame, a circuit board or a thin-film circuit

1 6 (Original) The device of Claims 1 or 2 wherein said second electrode is a multi-layer
2 structure comprising a light-transmitting conductive layer and a layer of aluminum (AL) or silver
3 (Ag)

1 7 (Original) The device of Claims 1 or 2 wherein said second electrode is a multi-layer
2 structure of nickel/gold/titanium/ aluminum (Ni/Au/Ti/Al), Indium-Tin Oxide/aluminum
3 (ITO/Al) or Indium-Tin Oxide/silver (ITO/Ag)

1 8 (Original) A flip-chip light-emitting device, comprising
2 a transparent substrate,
3 a semiconductor stacked structure arranged over a main surface of said
4 transparent substrate wherein said stacked structure comprises an p-type GaN-based III-V group
5 compound semiconductor layer adjacent to said main surface and a n-type GaN-based III-V
6 Group compound semiconductor layer adjacent to said p-type semiconductor layer,
7 a first electrode being in electrical contact with said n-type semiconductor layer,
8 and

9 a second electrode being in electrical contact with said p-type semiconductor
10 layer.

11 wherein said first electrode has good reflectivity of light and covers most of the
12 outer surface of said n-type semiconductor layer

1 9 (Original) The device of Claim 8 wherein said stacked structure further comprises an
2 active layer placed between said n-type semiconductor layer said the p-type semiconductor layer

1 10 (Original) The device of Claims 8 or 9 further comprising an insulating layer at least
2 coated on the side surface of the stacked structure, a portion of said first electrode and a portion
3 of said second electrode.

1 11 (Original) The device of Claims 8 or 9 further comprising a base which has a first
2 and a second conductive portions respectively connected to said first and second electrodes

1 12 (Original) The device of Claim 11 wherein said base can be a conductive lead frame,
2 a glass lead frame, a circuit board or a thin-film circuit

1 13 (Original) The device of Claims 8 or 9 wherein said second electrode is a multi-layer
2 structure comprising a light-transmitting conductive layer and a layer of aluminum (Al) or silver
3 (Ag)

1 14 (Original) The device of Claims 8 or 9 wherein said second electrode is a multi-layer
2 structure of titanium/aluminum (Ti/Al), titanium/silver (Ti/Ag), Indium-Tin Oxide/aluminum
3 (ITO/Al) or Indium-Tin Oxide/silver (ITO/Ag).